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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,931	06/27/2003	Elliott R. Brown	P-US075-A-MG	8696
32107	7590	02/09/2005	EXAMINER	
MICROFABRICA INC. DENNIS R. SMALLEY 1103 W. ISABEL ST. BURBANK, CA 91506			GLENN, KIMBERLY E	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/607,931	Applicant(s) BROWN ET AL.	
	Examiner Kimberly E. Glenn	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-33 is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claims 8 and 34 are objected to because of the following informalities: Both claims 8 and 34 depend upon itself, respectively. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examiner is unsure what applicant means by the limitation "the aperture have dimension that are no larger than the greater of 1/10 of the wavelength or 200 microns". How does the wavelength or micron relate to the physical dimension (height, width, length, radius, diameter etc.) of the aperture?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

In light of the 35 USC 112 rejection, claims 1, 10-12, 16 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakahara et al US Patent 3,729,740.

Nakahara et al disclosed in figure 4a a coaxial line comprising a entry port in a conductive structure, exit port in the conductive structure 8, a passage substantially bounded on the sides by the conductive structure through which RF or microwave radiation passes when traveling from the entry port to the exit port; a central conductor 7 extending along a length passage from the entry port to the exit port; and wherein the conductive structure 8 includes one or more apertures 10_1 - 10_3 which extend from the passage to an outer region. The passage and the central conductor have a generally rectangular shape. The passage also extends along a three- dimensional path.

Nakahara et al discloses in figure 6, a leaky line 1 connected to an antenna 18.

Allowable Subject Matter

Claims 29-33 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: With regards to claims 29 and 30, the prior art of record does not disclose or fairly teach a plurality of adhered layers of material comprising four microminiature coaxial elements, a first of the four coaxial element extending between two of four ports, and a second of the coaxial elements extending between the other two of the four ports, while the remaining two coaxial elements extend between the first and second coaxial elements, wherein at least a portion of the length of least one of the coaxial elements is arranged in a serpentine form. With regards to claims 31, 32 and 33, the prior art of record does not disclose or fairly teach depositing a plurality of adhered layers of material to form $(N/2)\log_2 N$ four port hybrid couplers each comprising four microminiature coaxial elements, each coaxial element extending between a respective

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pair of ports of the hybrid coupler such that a pair of coaxial elements is coupled to each port; and connecting at least some of the hybrid couplers to other hybrid couplers via phase shifting components to form a Butler matrix.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kampinsky US Patent 2,976,534, Marcatili US Patent 3,106,826, Nakajima et al US Patent 3,963,999, Landis US Patent 4,673,904, Cronin et al US Patent 4,776,087, Enokuma US Patent 6,417,742, Knop et al US Patent 6,480,163, Lipponen US Patent 6,523,252, Holden et al US Patent 6,724,277 and Sherrer et al US Patent Application Publication US 2004/0263290 A1.

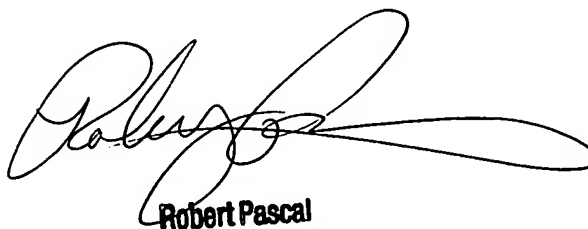
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E. Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly E Glenn
Examiner
Art Unit 2817

keg



Robert Pascal
Supervisory Patent Examiner
Technology Center 2800